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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/663,580

09/15/2000

Arihiro Takeda

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7590

03/27/2003

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/663,580

Applicant(s)

TAKEDA ET AL.

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 170-187 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 170-187 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/097,027.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/09/2002 has been entered.
2. Applicants' amendment filed 12/09/2002 have been received and entered.
3. Applicant's arguments dated 12/09/2002 have been considered but are moot in view of the new grounds of rejection as follow:

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 175 and 176 recites the limitation "said line portions" in line 2. There is insufficient antecedent basis for this limitation in those claims.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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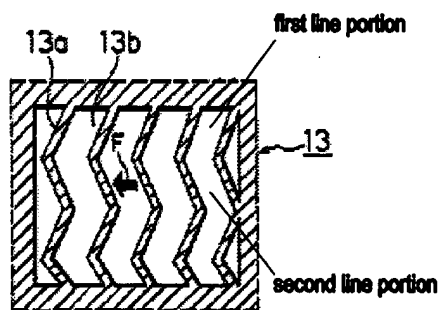
7. Claims 170-171, 175-186 are rejected under 35 U.S.C. 102(b) as being anticipated by Hisatake et al., US Patent No. 5,434,690.

Regarding claims 170-171, 178 and 183-185, those claims are anticipated by Hisatake et al. figures 24A-24C which disclose a liquid crystal display (LCD) device comprising:

- . a first substrate(11) having an electrode (13) and slits (13b);
- . a second substrate (12) having an electrode (14) and slits (14b);
- . a negative dielectric constant anisotropy liquid crystal layer (20)(col. 5, ln. 57);
- . a vertical alignment layer (15/16) (see embodiment 4);

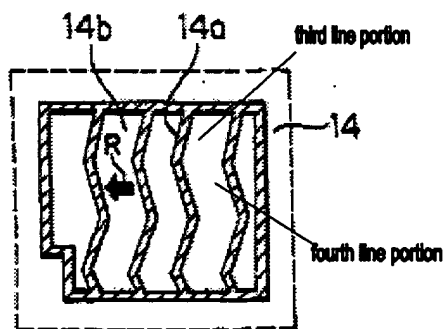
wherein:

- . the first substrate (reproduced below) including first domain regulating means (slits



13b) in which the first domain regulating means includes first line portions being extended in a first direction and second line portions being extended in a second direction different from the first direction;

- . the second substrate (reproduced below) including second domain regulating means



(slits 14b) in which the second domain regulating means includes third line portions being extended in the first direction and fourth line portions being extended in the second direction, the first and third line portions being arranged to be neighbored and

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parallel to each other and the second and fourth line portions being arranged to be neighbored and parallel to each other in each pixel.

Regarding claims 176 and 181, the four line portions of the first and second domain regulating means are bent in a generally zigzag shape (see figures 24B-24C).

Regarding claims 175, 177, 179-180, 182 and 186, the four lines of the first and second domain regulating means are repeatedly arranged with a predetermined pitch and offset by half of the predetermined pitch (see figures 20 and 24A).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 172-174 and 187 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatake et al., US Patent No. 5,434,690, in view of Lien et al., US Patent No. 5,309,264.

Regarding claim 172, Hisatake et al. disclose the claimed invention as described above except for four kinds of domains are formed when a voltage is applied to the liquid crystal layer.

Regarding claims 173-174 and 187, Hisatake et al. do not disclose a difference angle between the first and second directions is about 90° and a difference angle of the first and second directions from edges of the electrode is about 45°.

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Lien et al. do disclose a cut-out (slit 64) having an X shaped (i.e., first/third portion lines crossing second/fourth line portions) can be formed on an electrode (62) (see figure 2) and such X shaped cut-out defines the boundaries of four distinct liquid crystal domains (col. 4, ln. 31).

Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify the Hisatake et al. electrode having a X shaped slits as shown by Lien et al. in order to obtain an LCD device having high contrast over a wide viewing angle (see col. 1, lines 51-52).


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 703-305-0423. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7726 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DN  
03/18/2003

  
**Dung Nguyen**  
**Patent Examiner**  
**GAU 2871**